Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

THE PHALLOIDEÆ OF THE UNITED STATES.

II. SYSTEMATIC ACCOUNT.[1]

EDWARD A. BURT.

PHALLOIDEÆ, Fries. Syst. Myc. **2**:281. 1823.

Terrestrial fungi with mycelium forming ropelike strands and bearing spherical or ovoid fructifications—the "eggs"—which consist of a receptaculum and gleba enclosed by the volva; volva with thin outer and inner layers separated from each other by a broad gelatinous layer; receptaculum of various forms, with a pseudoparenchymatous wall of chambered structure, bursting through the apex of the volva at maturity and carrying aloft the spores; gleba deliquescing into a syrupy mass containing the very minute ($3–8\ \mu \times 1–2.5\ \mu$) ellipsoidal spores.

KEY TO THE GENERA.

I. Gleba borne on the outer surface of the receptaculum - PHALLEÆ
  1. Receptaculum consisting of a stipe along the upper portion of which the gleba is borne - - - - *Mutinus*
  2. Receptaculum consisting of a stipe and pileus joined together at their apices; gleba on the upper surface of the pileus - - - - - - *Ithyphallus*
  3. Receptaculum consisting of a stipe, pileus, and veil; gleba on the upper surface of the pileus - - - *Dictyophora*

II. Gleba borne on the inner surface of the receptaculum - CLATHREÆ
  4. Receptaculum lacking a stipe, consisting of obliquely anastomosing bars or of vertical columns joined together above - - - - - - *Clathrus*
  5. Receptaculum clathrate above, stipitate - - *Simblum*
  6. Receptaculum consisting of a stipe divided at its upper end into free arms whose inner surfaces and flanks between neighboring arms are covered by the gleba - - - *Anthurus*

---

[1] Contribution No. XXXVII from the Cryptogamic Laboratory of Harvard University, prepared under the direction of Dr. W. G. Farlow.

Subfamily PHALLEÆ (Fries).

MUTINUS Fries Summa Veg. Scand. 2:434. 1849.

Receptaculum consisting of a hollow stipe and lacking pileus and veil. Gleba borne on the outer surface of the upper portion of the stipe.

MUTINUS CURTISII (Berk.) Ed. Fischer.

Corynites Curtisii Berkeley, Grevillea 2:34. 1873. Compare James in Bull. Torrey Bot. Club 15:314. *pl. 86.* 1888.

Mutinus Curtisii (Berk.) Ed. Fischer, Saccardo's Syll. Fung. 7:13. 1888.

Mutinus bovinus Morgan, Journ. Cincinnati Soc. Nat. Hist. 11:147. *pl. 3.* 1889. Ed. Fischer, Untersuch. Phall. 92. 1890.

(?) *Caromyces elegans* Montagne Herb. 1850.

(?) *Corynites elegans* Montagne Sylloge Cryptogamarum 281. 1856.

(?) *Mutinus elegans* (Mont.) Ed. Fischer, Saccardo's Syll. Fung. 7:13. 1888. Neue Untersuch. Phall. 39. 1893.

Stipe horn shaped, tapering gradually from the base to the apex, sometimes subtriangular in cross-section, hollow, white or pinkish below and bright red above, perforate at the apex, spore bearing part with the same structure as the rest of the stipe.

Plant 4 to 7^{in} in height with a stipe ¾^{in} thick (10 to 17^{cm} by 2^{cm}). Growing in cultivated grounds and in woods. Ohio, *Morgan;* Connecticut, *Wright, Eaton, Thaxter;* Long Island, *Peck;* Massachusetts, *James.*

This plant is very distinct from the following species, being larger, with a stipe having its greatest diameter where it issues from the volva, and then tapering very gradually upward. Owing to an error in the dimensions of the plant as published by Berkeley in *Grevillea*, this species has been regarded as probably identical with *C. Ravenelii.* The authentic specimen upon which Berkeley's description was based is in the Curtis Herb. in a good state of preservation. It bears the following label and description which does not differ materially from that published:

"(5635) Corynites Curtisii, *Berk.!*

Hymenophorum stipitiform, tubular, thin, subtriangular, red, pitted above the middle, tapering to an obtuse point. Apex covered with a semifluid brown substance of a fetid smell.

Conn. C. Wright (222)."

This dried specimen measures 4$^{\text{in}}$ in length and has a stipe $\frac{9}{16}$$^{\text{in}}$ in diameter at its widest part where it leaves the volva (10$^{\text{cm}}$ by 14$^{\text{mm}}$). In the published description Berkeley adds that the spore-bearing part is confluent in structure with the portion below. This specimen agrees well with Morgan's description and figure of *M. bovinus*. An alcoholic specimen, collected by Thaxter in Connecticut, and a dried specimen collected by Peck on Long Island, agree well with the Berkeley specimen and with Morgan's figure. *Corynites Curtisii* and *Mutinus bovinus* are undoubtedly the same.

I have not seen specimens or figures of *Caromyces elegans* Montagne. The description, although rather imperfect, seems to indicate its identity with *C. Curtisii* and *M. bovinus*. Ed. Fischer[2] states that he has seen a figure of Montagne's plant in Herb. British Museum which agrees well with Morgan's figure of *M. bovinus*. If this identity is established Montagne's specific name should be used for the plant.

MUTINUS CANINUS (Huds.) Fries.

Phallus caninus Huds. Angl. **2** : 630.

Phallus inodorus Sowerby, Fung. *pl. 330*.

Phallus (*Cynophallus*) *caninus* Fries, Syst. Myc. **2** : 284. 1823.

Mutinus caninus (Huds.) Fries, Summa Veg. Scand. 2. 1849. *Cf.* Ed. Fischer, Vers. e. syst. Uebers. 55. 1886. Sacc. Syll. Fung. **7**: 12. 1888. Untersuch. Phall. 90. 1890. Morgan in Jour. Cincinnati Soc. Nat. Hist. **11** : 147. 1889.

Corynites Ravenelii B. & C. Trans. Linn. Soc. **21** : 149. *pl. 19*. 1855.

Corynites brevis B. & C. Curtis in Geol. and Nat. Hist. Surv. N. C. *Pt. 3. Botany:* 110. *Cf.* Bull. Torr. Bot. Club **7** : 30. 1880.

Mutinus brevis B. & C. Morgan, Jour. Cincinnati Soc. Nat. Hist. **11** : 147. 1889.

Mutinus Ravenelii (B. & C.). Ed. Fischer, Saccardo's Syll. Fung. **7**: 13. 1888.

Stipe hollow, cylindrical-fusiform, 2½ to 6$^{\text{in}}$ long by ½$^{\text{in}}$ or less thick (6 to 15$^{\text{cm}}$ by 1$^{\text{cm}}$); spore bearing part one-third to one-sixth the total length of the stipe, oblong-ovoid or conical, flesh-colored, perforate or imperforate at the apex; portion below spore bearing part tapering downward, white or reddish, mostly one layer of chambers thick. The chambers of the spore bearing part of the stipe have very massive walls—perhaps twenty layers of cells thick—and open as pits or winding tubes into the central cavity of the stipe; below this part they are thin walled, opening, if at all, through the outer wall.

---

[2] Neue Untersuch. Phall. 39. 1893.

Growing about buildings and in gardens and thickets. New England, New York, Pennsylvania and South Carolina, *various collectors*; Ohio, *Morgan;* Indiana, *Underwood;* Wisconsin, *Pammel.*

This fungus is quite variable with us. I have examined several collections made at points about Cambridge and Somerville, Mass., at Newport, R. I., and at East Galway, N. Y. Mr. C. H. Peck has kindly shown me the specimens in the New York State Herbarium of *Corynites Ravenelii* B. & C., collected by himself in New York, and of *Cynophallus caninus* (Huds.) collected by Warne in the same state. Authentic specimens of *Corynites Ravenelii* B. & C. and of *Corynites brevis* B. & C. in the Curtis Herbarium were examined. My thanks are also due to Professor Ed. Fischer of Bern and Professor Chodat of Geneva for alcoholic specimens of European types of *Mutinus caninus* (Huds.) collected by Professor Chodat in Biel, Switzerland, in 1894, and procured for me by Professor Fischer.

The careful examination and comparison of all of this material shows that there is no well marked character or group of characters by which *M. Ravenelii* (B. & C.) may be separated from *M. caninus* (Huds.). Upon superficial view the European types of *M. caninus* show the spore-bearing part to be rather more abruptly distinct in color ("determinate") from the lower part of the stipe than is generally the case in our specimens. But upon splitting the plants longitudinally, both show the same massive wall for the spore-bearing part with pits or tubes opening into the central cavity of the stipe in that region and with the same chambered structure lower down. For this reason, "spore-bearing part determinate" for *M. caninus* does not seem to be of value for separating it from *M. Ravenelii.*

One of the dried specimens of *C. Ravenelii* in the Curtis Herbarium discloses a portion of the surface of the spore-bearing part next to the central cavity of the stipe. The pits may still be seen. The specimens collected at Somerville, Mass., the structure of which has been shown in my account of the development of *M. caninus*, are undoubtedly the same as those of *Corynites Ravenelii* B. & C., and they show that, while the stipe is usually distinctly perforate at the apex, it may, nevertheless, be so minutely perforate and with the lips of the orifice so closely drawn together as to be fairly described as imperforate.

The variations observed in the abundant supply of material at Somerville show very clearly that our forms, called sometimes *Mutinus* (*Corynites*) *Ravenelii* and sometimes *Mutinus caninus*, are really the same species and cannot well be separated from *M. caninus* of Europe. The spore-bearing part may be quite as short in proportion to the total length of the stipe as it is in the European types, or it may vary to one-third the total length of the stipe in the same lot of material. The shorter the spore bearing part, the more acute it is likely to be in our specimens which I have seen. As the plant is much more frequent with us than it is in Europe, more variation would be expected in our form. It has therefore seemed best to slightly modify the old description so that it may comprehend as well the relative proportions in size of parts shown by our plant.

The specimen of *Corynites brevis* B. & C. in the Curtis Herbarium is identical with those of *C. Ravenelii* B. & C. and thus confirms Ravenel's statement[3] that *C. brevis* was merely an herbarium name for *C. Ravenelii* and was probably printed by an oversight of the author in Dr. Curtis's catalogue in the Geological and Natural History Survey of North Carolina.

ITHYPHALLUS Fries Syst. Myc. **2.** 1823 (subgenus).

Receptaculum consisting of a hollow stipe and of a pileus bearing the gleba upon its outer (upper) surface. Veil wanting.

---

[3] See Gerard, Bull. Torr. Bot. Club **7**: 30. 1880.

ITHYPHALLUS IMPUDICUS (L.) Fries.

Phallus impudicus Linn. Suec. *n. 1261.*

Phallus vulgaris Micheli, Nova plantarum genera 201. 1729.

Phallus fœtidus Sowerby Engl. Fungi, *pl. 329.*

Hymenophallus Hadriani Nees, System der Pilze und Schwämme, 1817.

Phallus (*Ithyphallus*) *impudicus* Fries, Syst. Myc. **2**: 283. 1823. Morgan, Jour. Cincinnati Soc. Nat. Hist. **11**: 146. 1889.

Ithyphallus impudicus (L.) Fr. Ed. Fischer, Saccardo's Syll. Fung. **7**: 8. 1888. Untersuch. Phall. 84. 1890.

Stipe hollow, tapering at each end, with a wall several layers of chambers thick, joined at its upper end with the pileus by a recurved border; pileus conic-campanulate, showing its outer surface sculptured with reticulated ridges and crests after deliquescence of the gleba; veil wanting; volva white or pinkish.

Total height of plant 6 to 12$^{\text{in}}$ (15 to 30$^{\text{cm}}$): stipe 1¼$^{\text{in}}$ (3$^{\text{cm}}$) thick; pileus 2$^{\text{in}}$ (5$^{\text{cm}}$) high. Growing on the ground in woods. New England, *Farlow*, *Frost;* New York, *Peck*, *Gerard;* South Carolina, *Schweinitz;* Ohio, *Lea*, *D. L. James;* Missouri, *Trelease;* Nebraska, *H. J. Webber;* California, *Harkness.*

The size and form of *Dictyophora duplicata* and the surface of its pileus are so similar to *I. impudicus* that there is danger of mistaking that plant for *I. impudicus* in young stages if the veil of the former plant has not yet lost its connections with the under face of the pileus so as to hang freely below the pileus about the stipe.

ITHYPHALLUS RUBICUNDUS (Bosc) Ed. Fischer.

Satyrus rubicundus Bosc, in Magaz. des Gesellsch. naturf. Freunde zu Berlin **5**: 86, *pl. 6, f. 8.* 1811.

Phallus (*Leiophallus*) *rubicundus* Fries, Syst. Myc. **2**: 285. 1823.

Phallus (*Ithyphallus*) *rubicundus* Bosc. Morgan, Jour. Cincinnati Soc. Nat. Hist. **11**: 146. 1889.

Ithyphallus rubicundus (Bosc) Ed. Fischer, Saccardo's Syll. Fung. **7**: 11. 1888. *Cf.* Untersuch. Phall. 90. 1890.

Stipe fusiform, red, 6 to 7$^{\text{in}}$ long by ¾$^{\text{in}}$ thick in the middle (15 to 18$^{\text{cm}}$ by 2$^{\text{cm}}$), perforate at the apex; pileus conic-campanulate, with surface even; volva small, gray.

Growing on the ground in dry fields. Massachusetts, *Frost;* New York, *Schweinitz;* North Carolina, *Curtis;* South Carolina, *Ravenel;* Alabama, *Peters.*

Bosc's illustration and description of this plant suggest, except in coloration of the stipe, a form of *Phallus Ravenelii* B. & C., if the latter species ever occurs without its veil-like appendage under the pileus, or with this veil so reduced as to be overlooked. The outer surface of the gleba in Bosc's figure is quite even, showing, as in *P. Ravenelii*, no such reticulation of lines as exist in *D. duplicata* on the surface of its gleba, and which there mark the position of the reticulate crests and ridges of the surface of its pileus. The dried specimens in the Curtis Herb., marked *Phallus rubicundus*, show a striking resemblance to those of *P. Ravenelii*, even in their size. One of the specimens is so old that its pileus has become bared through deliquescence of the gleba. It shows the granulate or minutely wrinkled surface characteristic of the pileus of *P. Ravenelii.* It is greatly to be hoped that whoever may have the good fortune to find *I. rubicundus* will preserve in alcohol specimens of the mature plant and of its eggs for a study of its structural relationships.

DICTYOPHORA Desvaux, Jour. de Bot. (Paris) 2:88. 1809.

Receptaculum consisting of a stipe, a pileus and a veil, the latter being formed from the same tissue that gives rise to the stipe and hanging from the upper part of the stipe as a conical, campanulate, or cylindrical net or membrane.

DICTYOPHORA RAVENELII (B. & C.) Burt.

Boletus phalloides John Ray, Herb. Vaillant (Herb. du Musée d'hist. nat. in Paris), according to Ed. Fischer, Untersuch. Phall. 87.

Phallus Ravenelii B. & C., Grevillea 2:33. 1873. *Cf.* Farlow, Bull. Bussey Inst. 2:247. 1878. Peck, Bull. Torr. Bot. Club 9:123. *pl. 25.* 1882.

Phallus (*Hymenophallus*) *Ravenelii* B. & C. Morgan, Jour. Cincinnati Soc. Nat. Hist. 11:146. 1889.

Ithyphallus Ravenelii (B. & C.) Ed. Fischer, Saccardo's Syll. Fung. 7:11. 1888. *Cf.* also Ed. Fischer in Untersuch. Phalloideen 30 and 86, and in Neue Untersuch. Phalloideen 15 and 34. *f. 64–68.*

Ithyphallus cucullatus Patouillard, Jour. de Bot. 198. 1890. *Cf.* Ed. Fischer in Neue Untersuch. Phalloideen 34.

Stipe slender, tapering at each end, hollow; pileus conic-campanulate, with its surface granulate or minutely wrinkled after disappearance of the gleba; veil membranaceous, usually less than one-half of the length of the pileus, loosely attached to the stipe in the angle between the stipe and pileus; stipe closed at the apex by a thin membrane or finally perforate; volva pinkish.

Plant 4 to 7^{in} long (10 to 17^{cm}); stipe $\frac{3}{4}^{in}$ thick (15 to 20^{mm}); pileus $1\frac{1}{2}^{in}$ high (2.5 to 3.5^{cm}). Growing in woods and fields about rotting wood. New England, *various collectors;* New York, *Peck;* South Carolina, *Ravenel;* Ohio, *Morgan.*

This species has been placed in the genus Dictyophora on account of its having a persistent membrane hanging about the stipe from the angle between the pileus and the stipe. This membrane is composed of the same tissue, the intermediate tissue *A* of my figures, which gives rise to the veil in *D. duplicata.* Differentiation of this tissue does not advance in *D. Ravenelii* to the final stage of making this membrane pseudoparenchyma, or is this final stage reached in the case of hyphæ composing the pileus in *I. impudicus* and in *D. duplicata*, yet no one would hesitate on that ground to use the term *pileus* in connection with those species. It seems best to apply the term veil to this membrane in *D. Ravenelii*, which looks like a veil, has the position of a veil, is composed of the tissue forming the veil in other species, and is likely to be regarded as a veil without question by every botanist meeting this fungus for the first time and attempting its determination.

I have as yet had no opportunity of studying this structure except in an advanced egg-stage, very kindly placed at my disposal by Professor Thaxter, but that a differentiation towards the stage of pseudoparenchymatous hyphæ exists in the structure seemed to be indicated by some laterally inflated hyphæ which were observed in the section, as well as by the persistence of the structure in a membrane which becomes torn away from the under surface of the pileus on the one side and from the wall of the stipe on the other, during elongation.

DICTYOPHORA DUPLICATA (Bosc) Ed. Fischer.

Phallus duplicatus Bosc, Magaz. des Gesellsch. naturf. Freunde zu Berlin **5** : 86. *pl. 6, f. 7.* 1811.

Hymenophallus duplicatus Nees, System der Pilze u. Schwämme. 1817.

Hymenophallus togatus Kalchbrenner, Gasteromycetes novi v. minus cogniti 6. *pl. 1.* 1884. *Cf.* Rau, A new Phallus, BOT. GAZ. **8** : 223. *pl. 4.* 183. Farlow, BOT. GAZ. **8** : 258. 1883.

Phallus (*Hymenophallus*) *dæmonum* Rumph. Morgan, Jour. Cincinnati Soc. Nat. Hist. **11** : 145. 1889. *Cf.* Tight, Bull. Sci. Lab. Denison Univ. **8**² : 7. *pl. 6.* 1894.

Dictyophora duplicata (Bosc) Ed. Fischer, Saccardo's Syll. Fung. **7** : 6. 1888.

Dictyophora phalloidea Desvaux, var. *Dictyophora duplicata* (Bosc) Ed. Fischer, Untersuch. Phalloïdeen 83. 1890.

Stipe cylindrical, tapering at each end, hollow, white, wall thick, with several layers of chambers; pileus campanulate, with surface sculptured with strong reticulating ridges and crests, which pass into the recurved border or collar formed by the union of the apex of the stipe with the pileus; veil reticulate, variable in length, but reaching down, usually, about half way from the apex of the stipe to its base. Meshes of the veil become smaller towards the lower border and the bars wider, so that the border is almost membranaceous. Apex of the plant with a large collar (truncate) and perforate, or more acute. Gleba dark green, with an extremely fetid odor.

Growing on the ground about buildings and about stumps in fields and thickets. Plant 6 to 9^{in} high (15 to 24^{cm}); stipe 1 to 1¼^{in} thick (2½ to 3^{cm}); pileus 2^{in} high (5^{cm}). This is a frequent species in the eastern United States and is reported from Ohio by Morgan, and specimens from Iowa have been contributed by Professor Fink. It has sometimes been confused by American botanists with the tropical *D. dæmonum* (Rumph.) and is frequently met with in collectors' lists under that name. The affinities of *D. dæmonum* (Rumph.) seem to be rather with *D. phalloidea* var. *typica* Ed. Fischer than with *D. duplicata*.

Ed. Fischer has regarded *D. phalloidea* Desvaux as a comprehensive species including four subspecies or varieties, of which *D. duplicata* is one. This seems to be too sweeping a combination. A. Möller's[4] excellent photographs of *D. phalloidea* var.

---

[4] Brasilische Pilzblumen, Jena, 1895.

typica, the variety nearest to *D. duplicata*, seem to afford sufficient ground for regarding the two as distinct species on account of the difference in the form of the pileus and in the almost membranaceous character of the marginal portion of the veil of *D. duplicata.*

Subfamily CLATHREÆ (Fries).

CLATHRUS Micheli, Nova plantar. genera 214. 1729.

Receptaculum wanting a stipe, consisting of a hollow clathrate structure of obliquely ascending and anastomosing bars, or consisting of a few vertical columns joined together at the apex (Laternea). Gleba inclosed within the receptaculum.

CLATHRUS COLUMNATUS Bosc.

Colonnaria urceolata, *truncata*, etc., Raf. Med. Repos. 1808, according to Gerard in Bull. Torr. Bot. Club **7**:30. 1880.

Clathrus columnatus Bosc, Mag. Gesell. naturf. Freunde zu Berlin **5**:85, *pl. 5. f. 5.* 1811. *Cf.* Ed. Fischer, Saccardo's Syll. Fung. **7**:18. 1888.

Clathrus colonnarius Leman, Dict. Sc. Nat. **9**:360. 1817.

Laternea columnata Nees, Nees and Henry's System der Pilze **2**:96. 1858.

Laternea angolensis Welwitsch and Currey, Trans. Linn. Soc. London **26**:286. 1870.

Clathrus angolensis (Welw. and Curr.) Ed. Fischer, Saccardo's Syll. Fung. **7**:19. 1888.

Laternea columnata (Bosc) Morgan, Jour. Cincinnati Soc. Nat. Hist. **11**:149. 1889.

Laternea pusilla B. & C. Jour. Linn. Soc. Bot. **10**:343. 1869.

Clathrus Berkeleyi Gerard in litt. Ed. Fischer, Saccardo's Syll. Fung. **7**:18. 1888.

Clathrus triscapus Mont. Gay Historia fisica y politica de Chile Bot. **7**:497. 1850.

Clathrus Brasiliensis Ed. Fischer, Versuch. e. syst. Uebers. 68. 1886.

(?) *Laternea triscapa* Turp. Morgan, Jour. Cincinnati Soc. Nat. Hist. **11**:149. 1887.

Clathrus (*Laternea*) *australis* Spegazzini, Anales de la Sociedad cientifica Argentina **24**:66. ——

Clathrus cancellatus Tourn., vars. *Berkeleyi*, *Brasiliensis*, *columnata*, and *australis.* Ed. Fischer, Untersuch. Phalloideen 55. 1890.

Laternea columnata (Bosc) A. Möller, Brasilische Pilzblumen. 1895.

Receptaculum consisting of 2 to 5 massive vertical columns separate below but joined together at the apex; columns cinnabar-red; gleba suspended from underneath the apex of the receptaculum. Odor very fetid.

Plant 2 to 5 in in height. Growing in sandy soil. N. Carolina, *Curtis;* S. Carolina, *Bosc, Ravenel;* Georgia, *Le Conte;* Florida, *Ravenel, Mrs. Curtis, Underwood, Rolfs;* (?) Texas, *Ellis.*

The number of columns composing the receptaculum has been regarded by some botanists as a sufficient distinction for making several species from this plant. The variations in the number of columns in plants from the same locality and even in the same lot of material show that this character is not of the importance assumed. I have followed A. Möller in slightly modifying Bosc's original description so as to include the forms with two and five columns which occur in the tropics. Ed. Fischer seems to have gone too far in combining *C. columnatus* with *C. cancellatus*. *C. columnatus* in all of its forms seems to be sufficiently distinct from the other species in the massive structure of its columns and in their vertical position, the latter difference dating back in its origin to the earliest stage in the differentiation of the egg.

Judging from Morgan's description, the *Laternea triscapa* Turp., collected by Ellis in Texas, hardly seems distinct from the three-columned form of *C. columnatus*, which occurs in Florida.

CLATHRUS CANCELLATUS Tourn.

Clathrus cancellatus Tourn. (see Tulasne in Expl. Scien. d'Algerie, Bot., Acotylédones 434). *Cf.* Ed. Fischer, Saccardo's Syll. Fung. 7:19. 1888. Morgan, Jour. Cincinnati Soc. Nat. Hist. 11:148. 1887.

Clathrus ruber, albus, flavescens, Micheli, Nova plantar. genera 214. 1729.

Clathrus volvaceus, Bull. Champignons. *pl. 441.*

Clathrus nicæensis Barla (see Luerssen Handbuch d. sys. Bot. 1:275. 1879.

Clathrus cancellatus Tourn. var. *typica* Ed. Fischer, Untersuch. Phalloideen 58 1890.

Receptaculum spherical or obovoid, cancellate in all parts; bars transversely wrinkled, from 4mm to 1cm wide, cinnabar-red or white or yellowish on their outer surface, inner surface of bars red; meshes irregularly polygonal. Odor very fetid.

Plant 3 to 5^{in} in height. Growing on the ground in woods. New York, *Clinton;* Georgia, *Le Conte;* Florida, *Faxon.*

SIMBLUM Klotzsch, Hook. Bot. Misc. **79^2:** 164.

Receptaculum consisting of a hollow stipe, which passes above into a hollow clathrate structure inclosing the gleba.

SIMBLUM SPHÆROCEPHALUM Schlechtendal.

Simblum sphærocephalum Schlecht. Linnæa **31:** 154. *d. pl. 1.* 1861–62.

Simblum pilidiatum Ernst, Grevillea **6:** 119. 1878. *Cf.* Ed. Fischer, Saccardo's Syll. Fung. **7:** 16. 1888. Untersuch. Phalloideen 50. *f. 47.* 1890.

Simblum rubescens Gerard, Bull. Torr. Bot. Club **7:** 8. *d. pl.* 1880. *Cf.* Ed. Fischer, Saccardo's Sylloge **7:** 16. 1888. Untersuch. Phalloideen 59. *f. 46.* 1890. Morgan, Jour. Cincinnati Soc. Nat. Hist. **11:** 148. 1889.

Simblum rubescens Gerard, var. *Kansensis* Cragin, Bull. Washburn Coll. Lab. Nat. Hist. 34. 1885.

Receptaculum long-stipitate; the clathrate portion depressed-globose, red or flesh-colored; the bars compressed, thinner than the stipe-wall, transversely wrinkled; meshes polygonal; stipe flesh-colored above, paler below, tapering towards the base, strongly constricted at the place of union with the clathrate portion.

Plant 3 to 5^{in} in height (7 to 12^{cm}); stipe ½ to $¾^{in}$ thick (12 to 15^{mm}); clathrate portion with greater diameter than the stipe. Growing in grassy ground. Long Island, *Gerard, Trask,* and others; Nebraska, *Webber.*

ANTHURUS Kalchbrenner, Grev. **9:** 2. 1880.

Receptaculum consisting of a hollow stipe divided above into arms, which are unconnected at their apices. Gleba covering the inner faces of the arms.

ANTHURUS BOREALIS Burt.

Anthurus borealis Burt, Memoirs Boston Soc. Nat. Hist. **3:** 504. *d. pl. 49, 50.* 1894.

Solitary or subcespitose. Stipe white, divided above into six, usually, but sometimes five or seven, narrowly lanceolate hollow arms; arms incurved above, with pale flesh-colored backs traversed their entire length by a shallow furrow; cavity of the stipe nearly closed at the base of the arms by a diaphragm through which there is an opening upward into a closed chamber with a dome-shaped wall; gleba supported on the dome and closely embraced by the arms; spores 3 to $4\mu \times 1.5\ \mu$, borne on cross-septate basidia constricted at the septa.

Total height of plant 4 to 5^{in} (10 to 12^{cm}). Growing in cultivated fields. New York, *Burt*, 1893, *A. E. Burt*, 1894, in an asparagus bed, *Peck*, 1896; and in a low meadow, Westboro, Mass., *F. L. Sargent*, 1894. Mr. Sargent states that in the specimens found by him the arms varied in number from five to seven.

One of the mature plants of the original collection has three of its six arms joined together at the upper ends, showing an approach toward the conditions in the genus Colus. The plant is quite normal in all other respects, and the conditions under which it was collected preclude the idea of its being more than a variation of *A. borealis*.

Lysurus Texensis Ellis. Gerard in Bull. Torr. Bot. Club **7**: 30, 1880, mentioned a plant to which this name was given provisionally. The description has not been completed.

I am under great obligation to Dr. Farlow for the use of books and for access to the specimens of the Phalloideæ in the Curtis Herbarium; and also to Professor Peck for the privilege of examining the Phalloideæ in the New York State Herbarium at Albany, N. Y.

MIDDLEBURY COLLEGE, MIDDLEBURY, VT.